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ABSTRACT

The effects of drawings used to help beginners learn horseback riding were studied, and issues involved in such a study were explored. Two of nine beginning student riders (college undergraduates) were drawn and two were not, while the remaining students made the drawings. Riders rode the same pattern after seeing drawings of themselves and their body posture. Both riding periods were videotaped and evaluated by experienced riders to determine effects on riding. It was expected that the drawings would have a relatively simple effect in helping students overcome identified errors, but drawings actually affected dimensions of riding skill beyond those targeted by the drawings and assisted positive change as noted by observers. It is also suggested that video aids to riding instruction ought to involve methods for making dimensions of skill more readily apparent. (SLD)

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Using Drawings to Teach and Videotapes to Evaluate Beginners When They Learn to Ride

by
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Introduction

Within physical education, the use of diagrams, and more recently, videotapes has been encouraged as a way to help students learn position and movement. In fact, one commercially published magazine (*Practical Horseman*) that is fairly technical and the outlet for much expert opinion has published a recent article on how to incorporate videotapes into riding and learning to ride. Nearly every horse show and riding clinic has in attendance numerous video cameras, some of which are operated by professionals who then sell these tapes for profit. Friends and family members are often steadily engaged in videotaping, for the later consumption by riders. The use of videotapes and other visual aids is popular and widespread, finding much use often by amateurs and outside of the formal instructional setting.

Do these popular visual adjuncts work to assist learning? Many riders will testify that video information is helpful, yet it has not been demonstrated empirically that riding is better following exposure to such aids and information, compared to the effects of just riding more. This study is a small exploratory study designed to test the effects of drawings used to help beginners learn to ride, and to explicate the issues involved in seeking answers to such questions.

In this study, several beginning students, in their seventh hour of learning to ride, rode at the walk and the trot, and some of them were given feedback on body position in the form of drawings made by their peers. They then rode again. It was assumed that drawings would function in learning riding as they have in other learning research. (see Kozma, 1991). According to social/cognitive theory, it could be expected that as learners attend to the drawings, they extract information from them and form a cognitive representation. This information then serves as a guide for action when they ride again, after viewing the drawings. This generally stated theory supported by previous research using drawings during performance suggests that other things being equal, drawings ought to be helpful to students, although we cannot say that they are the MOST helpful form of feedback and intervention.

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Subjects

Undergraduate students in a beginning horseback riding class were the subjects for the study. These were students who had minimal riding experience before they came to this class and they were in their seventh hour of instruction. There were 10 students enrolled in the class; on the day of the study, nine were in attendance. Four students were randomly selected to ride and out of the four, two were randomly selected to be drawn and two were not drawn. The other six students did the drawings while observing the riders ride at the walk and the trot. Which student drew which rider was also randomly determined.

Instruction and Procedure

The student drawers were seated at a desk behind the observation wall in an indoor riding ring. From the desk, they could observe all students riding in a line wherever they would ride in the arena. Drawers' eyes were about at the level of the riders seat. The drawers were told to draw their designated person while that person rode, and to pay attention to the instructions on their sheet. (Study your rider, draw an accurate view including flaws, use your yellow highlighter to help the riders notice flaws they should correct). They were also asked not to talk to each other until the drawings were finished. The drawers had a period of 15 minutes in which to complete their drawings.

The student riders were assisted with tack and mounted as usual. They began riding in a line on the wall as usual. During the period of drawing, the first fifteen minutes, they rode first at the walk, then at the trot, and the video was taken by the instructor and her assistant standing in the center of the ring. An attempt was made as much as possible to get each rider for a period of time going to the left and to the right at each gait. Approximately eight minutes were spent going in one direction, then the direction was changed by a figure eight in the arena, and the other direction was taken. There were no position design clues given by the instructor during this time; riders were only told to shorten their reins, or to keep their horse on the wall. This instruction was necessary for a safe and organized class at this level.

After the drawing period was completed, student riders were handed drawings of themselves and gathered in the middle of the ring. The two riders drawn were told to look at how they had been depicted in the drawings. They were then told to "use what they saw to help them ride better". They were given approximately two minutes to look at the drawings.

The control students were told to think about how they just rode. They were asked to imagine what could be better, and to pick two or three things to rehearse mentally, and then to practice when they were out (on the arena wall).

The riders rode again, being told they would probably be helped by their warmup (control) or their drawings. Riders rode the same pattern as before in the same order. In both phases, pre and post, a rail had been placed in the center of the ring so the riders would cross it when changing direction. It was felt this action would provide a bit more

information about the effectiveness of the riders position to the drawers and later to the observers.

Observers

Five experienced hunt seat riders observed the video tapes. Each observer presently owns or has owned a hunt seat horse and all riders have competed in hunter shows. All riders have spent at least one full year, and up to 10 years enrolled in formal hunt seat riding instruction given by legitimate professionals who show and teach. Three observers have had very extensive experience teaching hunt seat to beginners, one observer is becoming involved in teaching. All observers are college graduates and one observer graduated from a school emphasizing equestrian studies.

The observers completed rating sheets describing position and movement characteristics for each rider observed. They evaluated the riders blind. They were asked to also comment on the aspects of design rated. The aspects of position rated were body position and parts alignment, and adequacy of base of support. The aspects of movement rated were motion in concert with the horse (or not) and whether there were errors in motion (or not). The ratings ranged from strongly disagree through no opinion to strongly agree. Spaces below the rating continuums were provided for comments.

The researcher cycled back and forth through the video tape to assist the observers while they did their ratings. Many looks were taken of all students during walk and trot, pre and post. Observers also studied riders in slow motion. The entire rating task lasted about 45 minutes indicating by the time taken and comments made ('This is hard', 'Let's see that again'.) they took their job quite seriously. Observers saw tapes singly and in pairs; no conversation about riders was allowed.

After rating each rider, observers were asked to match the student generated drawings to the riders they had viewed. There were three drawings of one rider and two of the other, with one "distractor" drawing of another student. These six drawings were matched to all four riders, even though, two of the riders had not been drawn by the student drawers.

Equipment. The video camera was a Zenith 360. The receiving was transferred onto a regular VHS tape and played on a four head Panasonic VHS playback.

Results

The results of this study can be described in terms of a simple model for how drawings might be expected to influence learning to ride. In a simple world, the drawers would draw the riders highlighting their most obvious position flaws, and it should be possible to clearly see such flaws in the pictures generated. When given the pictures, the riders should notice such clearly illustrated flaws and aim to correct them. They should encode and rehearse perhaps enactively how they will change their positions when they ride again. Such position changes, if they are in fact major ones, ought to be noticeable by the observers when they

study the videos in the post phase of this riding study. Such changes ought to affect their rating behavior and their comments about the riders.

The five drawings of the observed riders were line drawings of side views of position design. The yellow highlighter was used on every drawing to highlight flaws, which varied in number from one to three. Often, text was also used to explain the flaw (for example, "looks down"). The drawings were basically easy to see and interpret.

1) Were the drawings accurate?

To answer this, the flaws noted for each rider were compared. In the two drawings of one rider, drawers agreed in noting a round back, but one drawer also noted "hands up", while the second one did not, either in highlighting or in the figure drawn itself. In three drawings of the second experimental student, two noted a round back, lack of heels down and eyes down--three classical flaws--while the third drawer noted a round back (a flaw shared with the other two), "good hands" (a plus not noted by either of the other two), and a "good heel" which is in conflict with the drawings of the other two student observers. Therefore, what students observe and choose to highlight can vary among them both in number, in kind, and in accuracy. Perhaps rather than relying on students' memory of what is proper position alignment, this task would be better served by having a standard present to remind students of what to look for.

A second analysis of the drawings was done by determining whether the observers could identify the student riders from the drawings alone. Three things were clear from this analysis. First, drawings by two student drawers of the same rider and horse can be perceived very differently. One example drawing of the rider on Strawberry (the horse) was identified correctly by four of the observers. The second example drawing of Strawberry and her rider was not correctly identified as such by anyone--they all thought it was another rider and horse, and who they thought it was varied. This inconsistency of identification is probably due to the information contained in the drawings--the correctly identified one had two flaws present in the drawing, and the drawing not correctly identified had one flaw noted, a flaw which was shared by all of the student riders and thus not distinctive to Strawberry's rider (this flaw was a roundback).

A second analysis considered confusions and what rider was thought to be what other rider. This analysis showed riders having common positions and position flaws were most often confused. Also, observers when they identified riders in drawings paid attend to nonhighlighted cues too. One drawing showed a rider leaning forward, quite forward yet their back was not highlighted as a flaw. Yet the drawing was still identified as that rider who "leaned forward a great deal". From these data on drawings it can be said that the drawings students generate as diagnostic aids did not function as stand alone pictures.

2) What effect did drawings have?

It was expected that drawings would help students correct their

position design flaws in that attention to such flaws was called for in the drawings. Of the observers whose post ratings were higher than their pre ratings for these students, their comments were studied for the presence of words and phrases noting improvement in the drawn body parts. For the experimental rider on Strawberry, three of the five observers noted post phase improvement. Two observers of the three observers mentioned hands as improved, the third did not specifically mention any of the drawn flawed body parts. Thus where judged improvement existed, and could have been described as being located in hands, shoulders, back, upper body (the highlighted flaws), only one body part was mentioned and only by two of the three observers. In the second experimental subject, the rider on Mariah, the drawings highlighted eyes, back, shoulders, heels and hands. Three observers judged this rider as improved. Of these, one mentioned two parts--back and heels. One mentioned legs, which is not as specific as the flaws represented in the drawings. The third observer mentioned head, which also is not as specific as in the drawings. The data is not overwhelmingly in favor of any direct corrective effects of drawings. That is, according to three target observers' opinions, student riders do get better, but this is not, in their observations, necessarily due to a strategy of correcting flawed parts.

3) Nature of improvements.

So then what did improve, according to the comments made by the observers? These comments, made by observers who scored these students better in the post phase than in the pre, focussed interestingly enough, on rider movement and balance, dynamic aspects of riding. It was stated by these three observers, that the riders had... "better motion with the horse, follows well, has improved balance and rhythm, and there is no jabbing (of the horse in the mouth)." Mentioned also was the position concept of "alignment" ....improved alignment....but one observer also made the telling and important point that...."alignment does not tell the whole story; movement over the cavaletti (rail on the ground negotiated at a trot) is very important." It seems therefore that one reason a direct connection did not seem to exist between drawn flaws and rider performance improvement is that when observers evaluate riders and their skill, they are looking beyond form into function, that is, into rider effectiveness and security and non abuse of the horse. These qualities are described by such movement concepts as balance, rhythm, base of support, steadiness, and so forth. It would certainly seem that if these are the focal and valued ideas that came into play when evaluating riders, then what the observers have had to do in this instance, where the video showed mostly work on the flat, is to some extent infer from adequacy of position design just how good balance and rhythm and security actually are. In fact one observer explicitly stated..."I know this rider looks good but I keep waiting for her to fall on her face."

It would seem that rather than having to infer how secure a rider probably is from looking at and then beyond his or her position design (and this is emphasized in instructional texts and videos too) while working on the flat, it makes more sense to allow direct

observation of riders negotiating simple obstacles and to make this a central part of rider evaluation. To date, of course, the classical texts in rider education emphasize static position design objectives. Attention is also given motion concepts but these are very difficult to portray well in a static medium. There is an increasing need to design and produce video materials that can be incorporated into rider education which address these important dynamic aspects of skill quite directly.

Systematic treatment of motion concepts could help in both learning to ride and in enhancing the evaluation of riders. It was found in this study that riders who are evaluated as the "better" riders (ranks 1 and 2 in overall scale points) were ranked fairly consistently across all scale dimensions by the observers. In contrast, riders evaluated as "poorer" riders are not ranked consistently across the four dimensions by the observers. There is great inconsistency and wide variability in the distribution of scale responses. Perhaps this is due to an attempt by observers to assess the likely effects of serious disturbances in position on the dynamic aspects of skill. Such assessment comes out good (in the ratings of some) and bad (in the ratings of others). Very possibly, if rider motion is a specific object of study, such assessments would not be so varied.

Thus far we have seen that observers appeared not to look directly for the numerous position flaws portrayed in students' positions and portraying in the drawings. Another way to examine this question of the effects of the drawings is to look only at the scale question on "rider position" to see if any increase in rating was obtained from pre to post, for the experimental riders and for the control too, by comparison. For the position question, the rider on Strawberry was judged worse (-2 points) by one observer, no change by two, and improved by two (+1 and +2 points). The rider on Mariah was judged worse by two observers (-2 each) and no change by three. For these experimental subjects, the drawings did not have a consistent effect of improving position.

For the control subjects, the rider on Magic was judged worse by one observer (-2), no change by three observers, and better by one (+1). The rider on Tory was judged improved by two observers (+1 and +2 points), no change by three, and improved by one (+2). It cannot be said that drawings had a helpful effect, relative to just riding more, on this position dimension, which is the one dimension drawings were thought to influence.

The other three dimensions of the rating scale were subjected to the same kind of analysis. These were "base of support", "in concert with the horse", and "errors while riding." These dimensions showed a quite different pattern. There was very little change noted for the control riders and horses on these dimensions; in fact mostly no change was recorded. In contrast the experimental riders and horses showed the most change with the net result a positive one. Out of the total of four dimensions, with five observers and four riders on horses (total of 80 observations), it was found that of the forty observations associated with the experimental group, there were 19 no

changes and a total change score of a net of +20. Out of the forty for the control group there was a total of 32 no changes, with a net of +9. These data do suggest that drawings had an effect, but not the simple one we expected. The other dimensions of performance were mostly affected.

It is not possible within the confines of this study to say uniquely why drawings seemed to affect dimensions of riding skill other than those directly drawn (the position design dimension). Perhaps position adjustments in riders are not really salient in a video, or perhaps position features were not systematically looked for or the focus of attention, or perhaps position features were devalued in the eyes of the observers who preferred instead to emphasize the functions that the form is supposed to support. Or, perhaps basic drawings have effects on dynamic aspects of skill.

In summary, the results of this study show a simple direct correction model does not account for what dimension of riding performance drawings seem to affect. Rather, drawings seem to assist change in other, related dimensions of performance which in turn observers focus upon. This suggests that video aids to riding instruction ought to involve methods for making dimensions of skill such as balance, rhythm, and base of support and variations in those dimensions more readily apparent.

Reference

Kozma, R.B. (1991). Learning with media. *Review of Educational Research, 61*, 179-211.